

# Welcome!

T202111601

## SR 4 & HARMONY ROAD INTERSECTION IMPROVEMENTS

Delaware Department of Transportation  
October 25, 2023



Project Website



## OUR MISSION – EXCELLENCE IN TRANSPORTATION

### ◆ Every Trip

- ❖ We strive to make every trip taken in Delaware safe, reliable and convenient for people and commerce.

### ◆ Every Mode

- ❖ We provide safe choices for travelers in Delaware to access roads, rails, buses, airways, waterways, bike trails, and walking paths.

### ◆ Every Dollar

- ❖ We seek the best value for every dollar spent for the benefit of all.

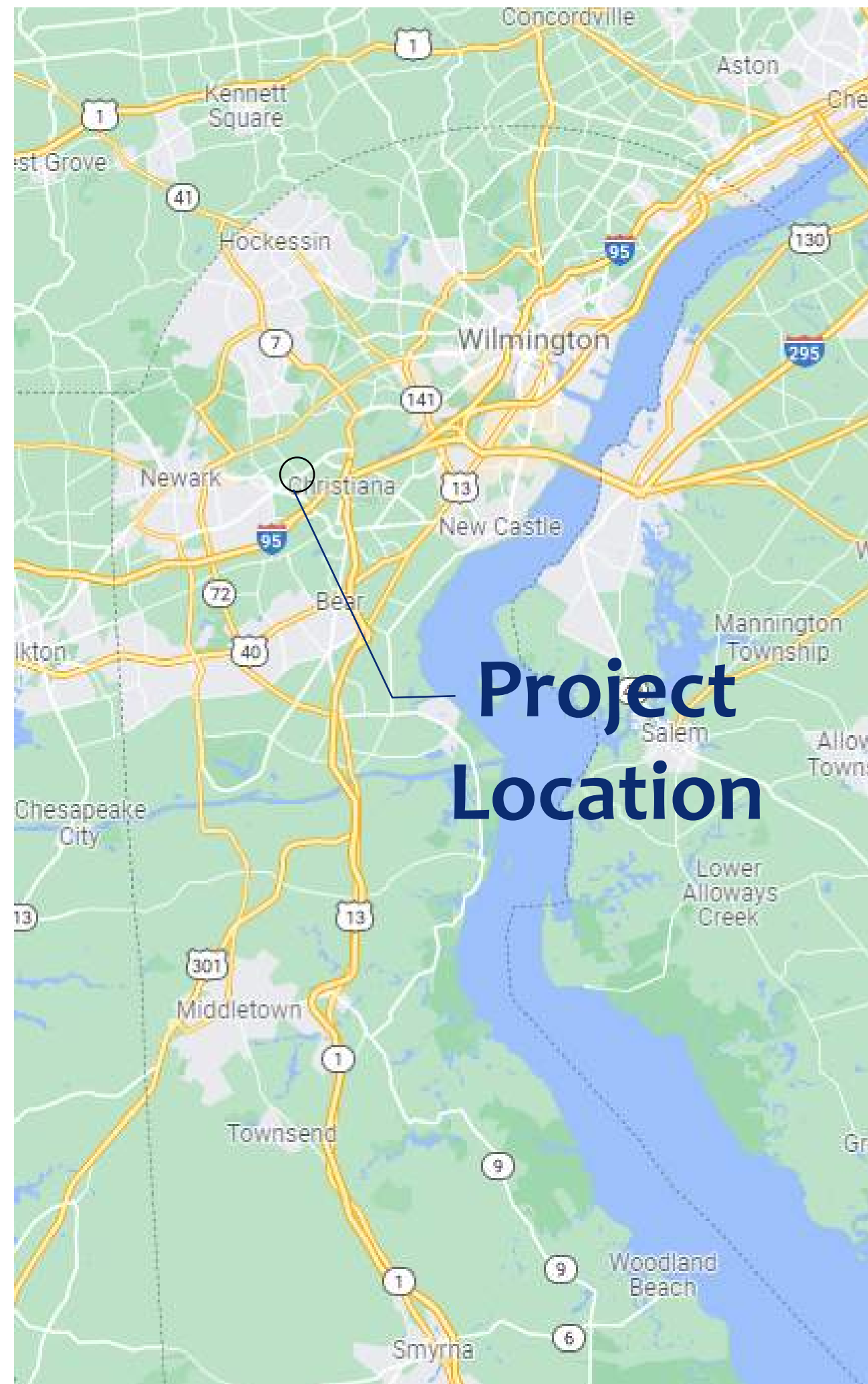
### ◆ Everyone

- ❖ We engage our customers and employees with respect and courtesy as we deliver our services.





# SR 4 & HARMONY ROAD INTERSECTION IMPROVEMENTS



## SR 4 & Harmony Road



## PROJECT PURPOSE

- ◆ Address Congestion & Safety
  - ❖ Reduce Overall Intersection Delay & Queues
- ◆ Geometric Improvements
  - ❖ Additional Turn Lanes
  - ❖ Channelizing Island Modifications
  - ❖ Signal Infrastructure Improvements
  - ❖ Lighting Improvements
- ◆ Add Pedestrian, Bicycle, & Transit Improvements
  - ❖ ADA-compliant pedestrian facilities
  - ❖ Shared-Use Paths
  - ❖ Maintain East Coast Greenway Trail
  - ❖ DART upgrades / coordination



CRASH TYPE	NO. OF CRASHES	PERCENTAGE
REAR-END	94	56%
ANGLE	45	27%
SIDESWIPE SAME DIRECTION	13	8%
HEAD-ON	4	2.5%
HIT FIXED OBJECT	4	2.5%
SIDESWIPE OPP. DIRECTION	3	2%
HIT PEDESTRIAN	2	1%
OTHER / UNKNOWN	2	1%
TOTAL	167	100%

CRASH SEVERITY	NO. OF CRASHES	PERCENTAGE
FATALITY	0	0%
INJURY	25	15%
PROPERTY DAMAGE ONLY	142	85%
TOTAL	167	100%

EXISTING CONDITIONS IMPACTING SAFETY  
CYCLE LENGTH: 150 SECONDS (WEEKDAY AM & PM) AND 120 SECONDS (WEEKDAY MIDDAY)  
RESULTS IN HIGHER DELAY EXPERIENCED BY LEFT-TURN AND MINOR STREET MOVEMENTS

SPEED LIMITS: 45 MPH ON SR 4 EASTBOUND AND WESTBOUND  
40 MPH ON HARMONY RD SOUTHBOUND  
25 MPH ON HARMONY RD NORTHBOUND

SAG CURVE: LOCATED IMMEDIATELY EAST OF THE CENTER OF THE INTERSECTION  
WESTBOUND: +1%  
EASTBOUND: -3%

LEGEND

 ANGLE

 HEAD-ON

 REAR-END

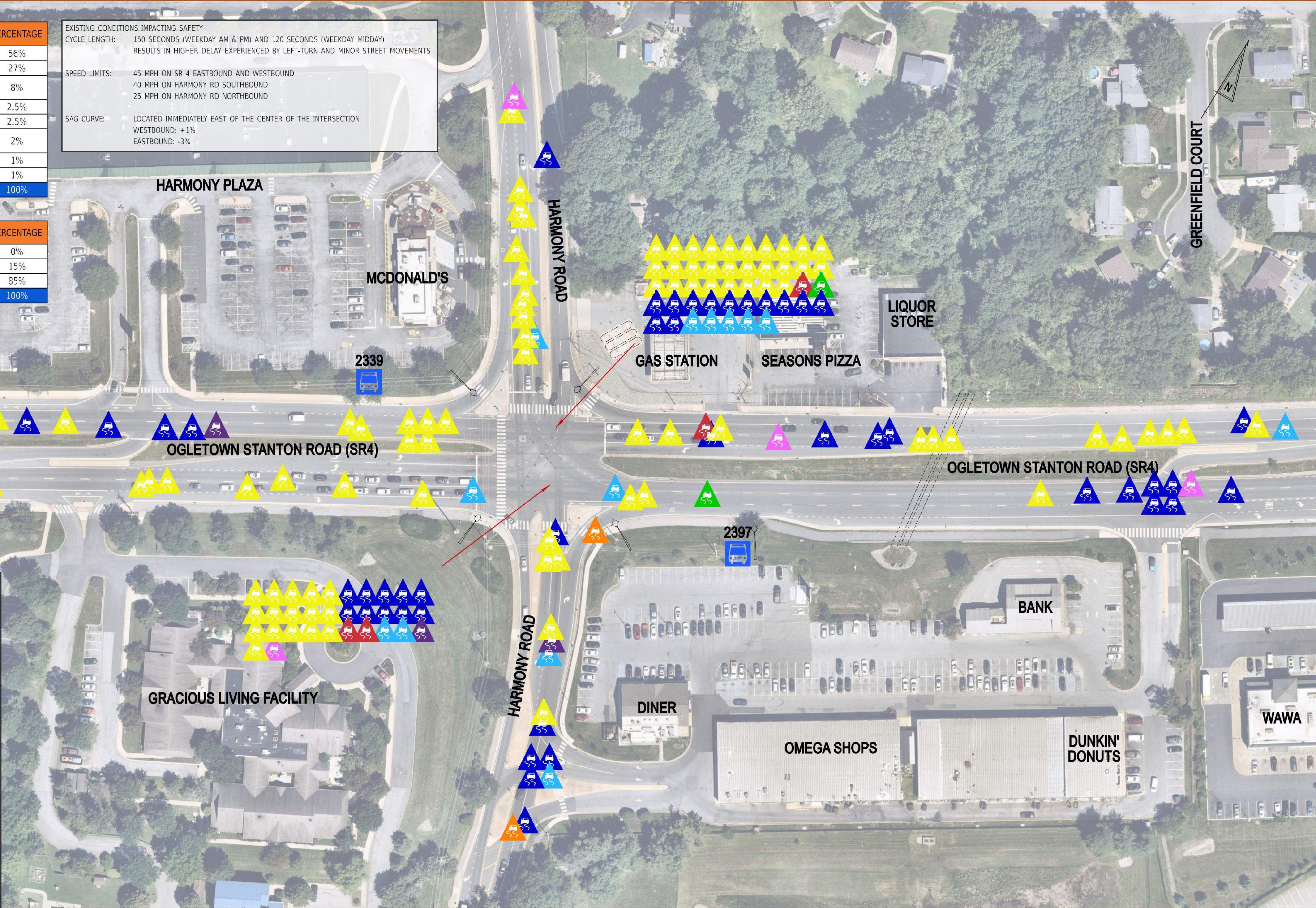
 HIT PEDESTRIAN

 HIT FIXED OBJECT

 OTHER / UNKNOWN

 SIDESWIPE - SAME DIRECTION

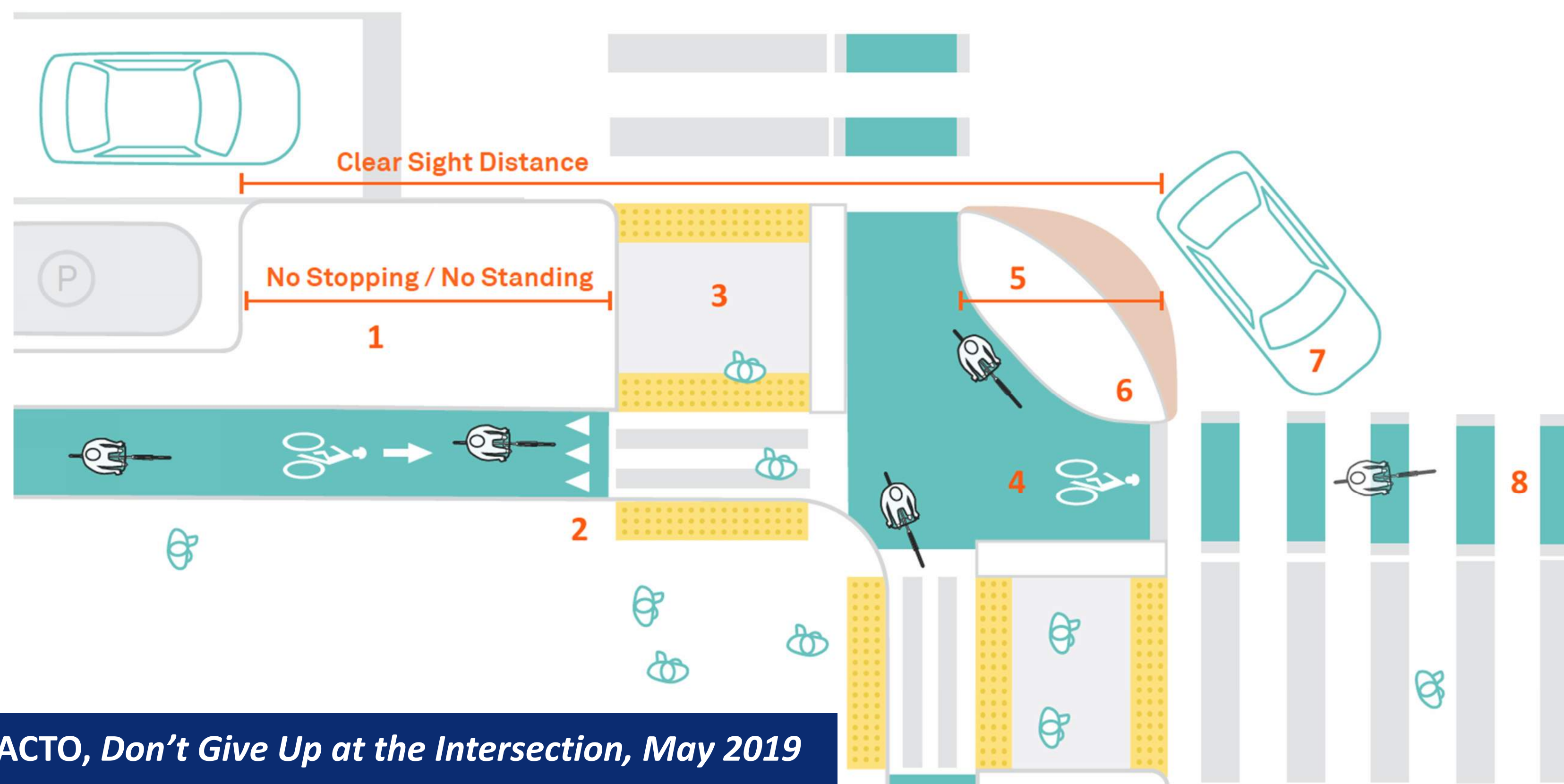
 SIDESWIPE - OPPOSITE DIRECTION





## WHAT IS A PROTECTED INTERSECTION?

1. No Stopping / No Standing Zone
2. Bike Yield Line (optional)
3. Pedestrian Islands
4. Bike Queue Area
5. Bikeway Setback
6. Corner Island
7. Motorist Waiting Zone
8. Crosswalks / Intersection Crossing Markings



NACTO, *Don't Give Up at the Intersection*, May 2019

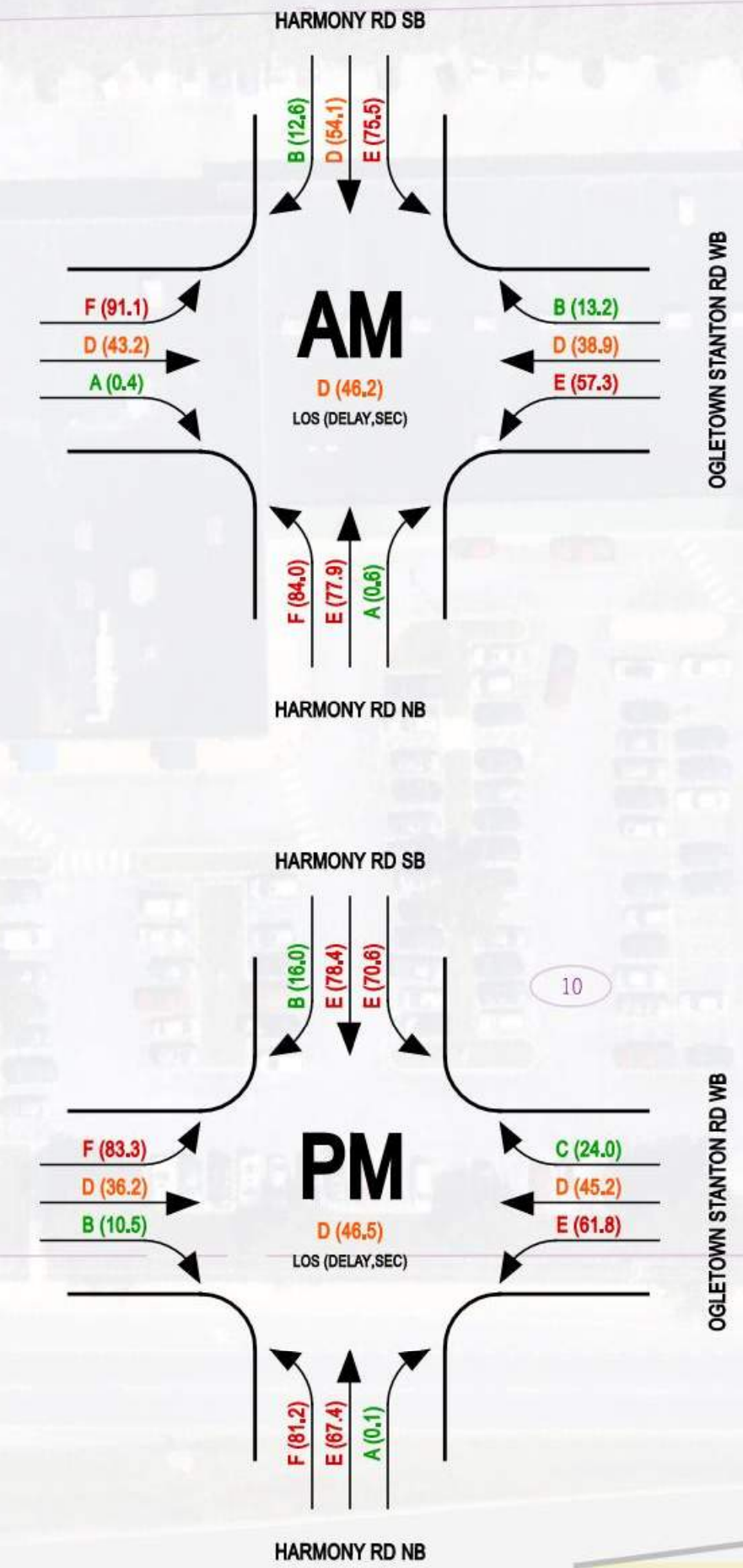


Example: Protected Intersection Quadrant



PROPOSED IMPROVEMENTS - 2ND WB LEFT + 2ND NB THRU ONLY (PROTECTED INTERSECTION WITH CHANNELIZING ISLAND)

2045 ANALYSIS

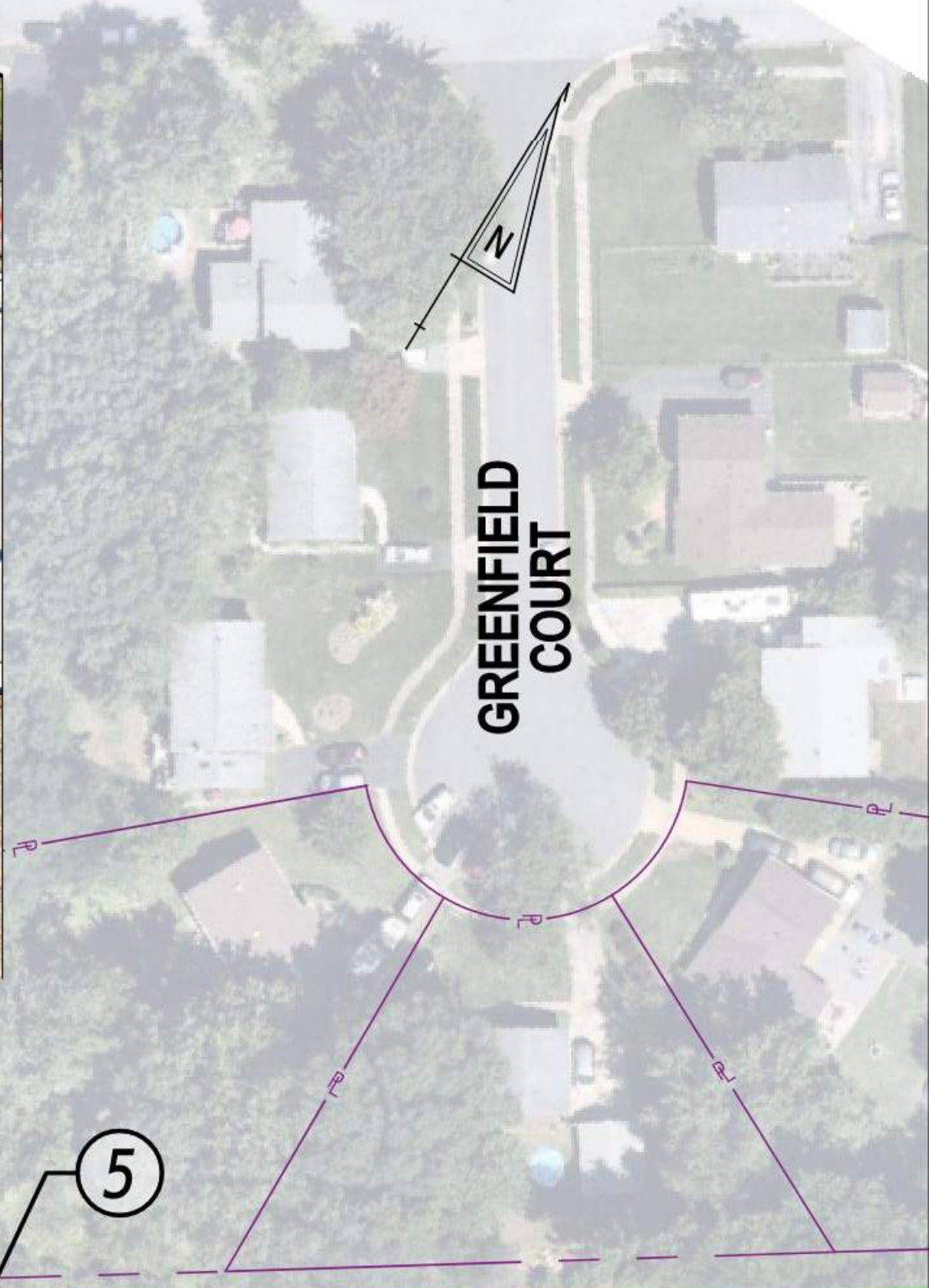
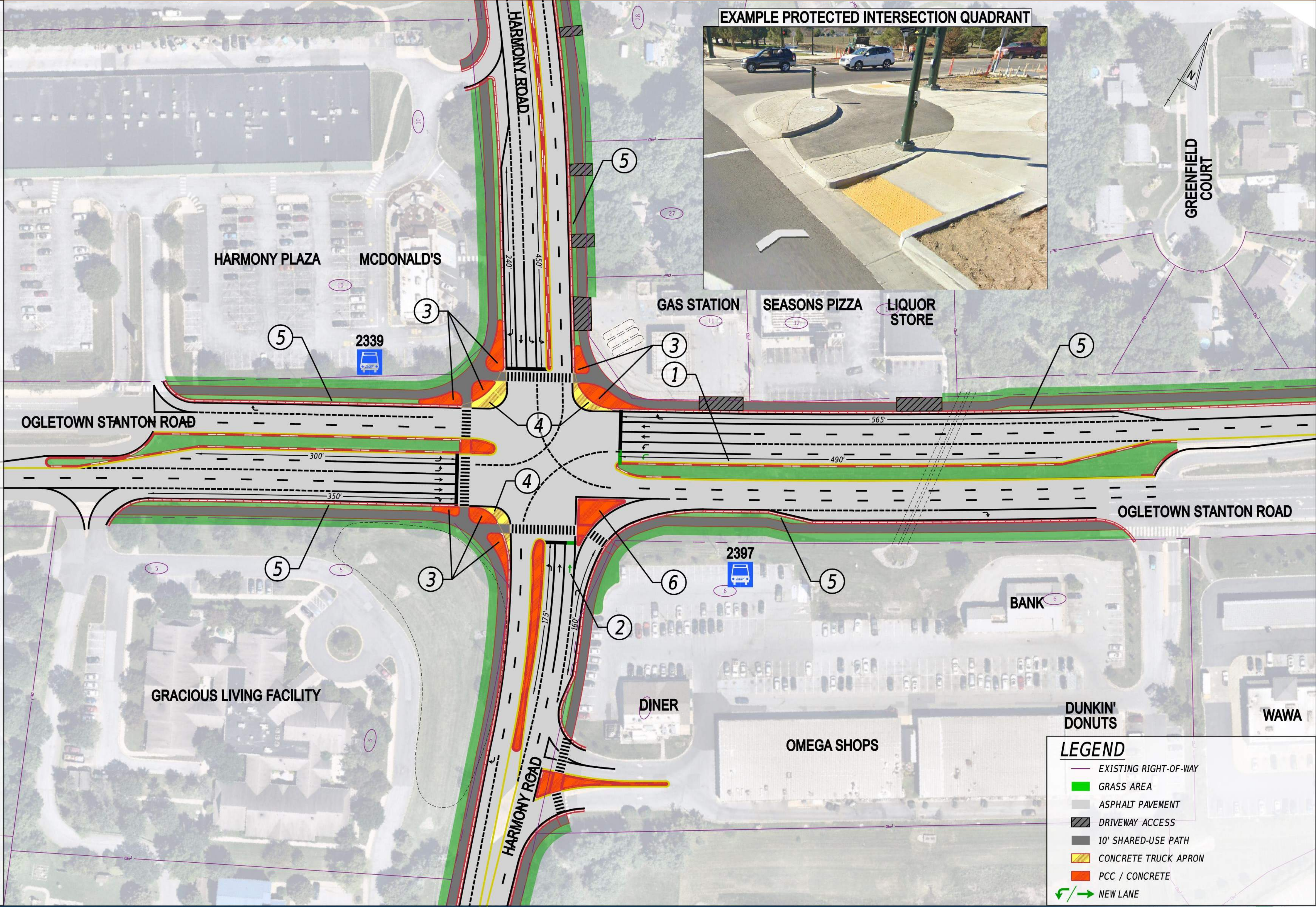


OVERALL LOS (DELAY)

ALT	AM	PM
EXISTING	D (50.5)	E (58.5)
NO BUILD (2045)	E (56.0)	E (62.7)
PROPOSED	D (46.2)	D (46.5)

PROPOSED IMPROVEMENTS

- 1 2ND WB LEFT TURN LANE
- 2 2ND NB THRU LANE
- 3 CORNER ISLAND
- 4 CONCRETE TRUCK APRON
- 5 5' GRASS BUFFER
- 6 CHANNELIZING ISLAND



**LEGEND**

- EXISTING RIGHT-OF-WAY
- GRASS AREA
- ASPHALT PAVEMENT
- DRIVEWAY ACCESS
- 10' SHARED-USE PATH
- CONCRETE TRUCK APRON
- PCC / CONCRETE
- NEW LANE



## PROJECT SCHEDULE

- |                              |                            |
|------------------------------|----------------------------|
| ◆ Semi-Final Design          | Winter 2023                |
| ◆ Final Design               | Summer 2024                |
| ◆ Right of Way Acquisition   | Summer 2024 to Summer 2025 |
| ◆ Bid / Contractor Selection | Fall/Winter 2025           |
| ◆ Construction               | 2026                       |



**THANK YOU!**

**QUESTIONS / COMMENTS?**

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Email: [dotpublic@delaware.gov](mailto:dotpublic@delaware.gov)



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